

Appendix D – KYTC's Common Geometric Practices for Rural Arterial Roads

COMMON GEOMETRIC PRACTICES **RURAL ARTERIAL ROADS (OTHER THAN FREEWAYS)** ④

				TRAFFIC VOLUME									
				UNDER 400 A.D.T.		400-1500 A.D.T.		1500-2000 A.D.T.		OVER 2000 A.D.T.			
		DESIGN SPEED ⑥		40-50 M.P.H.		40-70 M.P.H.		40-70 M.P.H.		40-70 M.P.H.			
PAVEMENT WIDTH (FEET)	40 MPH		22		22		22		24				
	45 MPH												
	50 MPH												
	55 MPH												
	60 MPH		24		24		24						
	65 MPH												
70 MPH													
MINIMUM GRADED SHOULDER WIDTH (FT) ⑤	ALL SPEEDS		4		6		6		8				
MINIMUM CLEAR ROADWAY WIDTH OF NEW AND RECONSTRUCTED BRIDGES	ALL SPEEDS		APPROACH ROADWAY WIDTH										
MINIMUM RADIUS (FEET)	DESIGN SPEED		eMAX. 4%				eMAX. 6%				eMAX. 8%		
	30 MPH		300				275				250		
	35 MPH		420				380				350		
	40 MPH		565				510				465		
	45 MPH		730				660				600		
	50 MPH		930				835				760		
	55 MPH		1190				1065				965		
	60 MPH		1505				1340				1205		
	65 MPH		—				1660				1485		
	70 MPH		—				2050				1820		
NORMAL PAVEMENT CROSS SLOPES ③	RATE OF CROSS SLOPE = 2%												
NORMAL SHOULDER CROSS SLOPES	EARTH = 8%						PAVED = 4%						
MAXIMUM GRADE (PERCENT)	M.P.H.	30	35	40	45	50	55	60	65	70	75	80	
	LEVEL	-		5		4		3					
	ROLLING	-		6		5		4					
	MOUNTAIN	-		8	7	6		5					
MINIMUM STOPPING SIGHT DISTANCE ①	(FEET)	200	250	305	360	425	495	570	645	730	820	910	
MINIMUM PASSING SIGHT DISTANCE ②	(FEET)	1090	1280	1470	1625	1835	1985	2135	2285	2480	2580	2680	

- ① MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON HEIGHT OF EYE OF 3.5 FT AND HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.
- ② MINIMUM PASSING SIGHT DISTANCES ARE BASED ON HEIGHT OF EYE 3.5 FT AND HEIGHT OF OBJECT OF 3.5 FT. BOTH HORIZONTAL AND VERTICAL ALIGNMENTS ARE CONSIDERED.
- ③ NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2%.
- ④ FOR GUIDANCE ON FREEWAYS, REFER TO AASHTO, "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", CURRENT EDITION.
- ⑤ WIDEN 3 FT FOR GUARDRAIL.
- ⑥ JUSTIFICATION FOR A DESIGN SPEED LESS THAN THE REGULATORY OR POSTED SPEED MUST BE DOCUMENTED AND AVAILABLE FOR REVIEW IN THE PROJECT FILES.